KVR GOVERMENT COLLEGE FOR WOMEN (A), KURNOOL

*Re-Accredited by NAAC with Grade "**A**"*

DEPARTMENT OF HOME SCIENCE

B.Sc. HOME SCIENCE SYLLABUS

FOR I YEAR

With Effect From

2020-21

SEMESTER - I

HSC -101- BASIC NUTRITION

Theory: 4Hours/week
Practicals: 2 Hours/week

THEORY

UNIT-I Introduction to Nutrition and Macro Nutrients

- Introduction and scope of Nutrition, definitions, relationship between Food, Nutrition, Health and Disease
- Macro Nutrients – Classification, functions, digestion, absorption, dietary sources, RDA, clinical manifestations of deficiency and excess and storage of the following in the body.
  - Carbohydrates
  - Lipids
  - Proteins

UNIT – II Micro nutrients- Vitamins

- Vitamins – Classification, functions , dietary sources, RDA, clinical manifestations of deficiency and excess of the following
  - Fat soluble vitamins – A, D, E and K
  - Water soluble vitamins – B Complex Vitamins - Thiamine, Riboflavin, Niacin, Pyridoxine, Folic acid, Cyanocobalamin and Vitamin C.

UNIT - III Minerals

- Minerals – classification, functions ,dietary sources, RDA, clinical manifestations of deficiency and excess of the following
  - Macro minerals – Calcium, Phosphorous, Magnesium, Sodium and Potassium
  - Micro minerals or Trace elements – Iron, Iodine, Fluorine and Zinc

UNIT - IV Energy

- Energy value of foods – Determination of gross energy value of foods using Bomb calorimeter and Oxy calorimeter. Physiological energy value of foods.
- Basal Metabolism – Factors affecting Basal Metabolic Rate, Measurement of BMR by Direct and Indirect Calorimetry. Formulas for calculating BMR.
- Computing Total Energy Requirement of the body based on Basal metabolic rate, Physical activity and Thermic effect of food. RDA and sources of energy.

UNIT – V Water and Non Nutrient constituents of Food

- Water – Functions, sources, requirement and regulation of water balance, Effect of deficiency and excess – Dehydration and over hydration; Electrolyte balance.
- Non nutrient constituents of foods and their importance
  - Phytochemicals – Curcumin, Lycopene, Flavonoids
  - Antioxidants – Vitamin C, E and Carotenoids
  - Detoxifying agents – Anthocyanins, Chlorophylls
  - Beneficial effects of non- nutrient constituents of food on Health.

PRACTICALS

1. List out the common foods and to learn their names in Telugu, English, Hindi and Urdu.
2. Learn to identify the different food samples and to know their nutrient composition.
3. Market survey

4. Dietary sources, Recommended Dietary Allowances and planning of recipes of the following nutrients
    - Macronutrients
    - Carbohydrates
    - Proteins
    - Fats
    - Fiber
5. Micronutrients
    - Vitamins –
        - Vitamin A
        - Vitamin C
    - Minerals –
        - Calcium
        - Iron

REFERENCES

1. Bamji MS, Krishnaswamy K, Brahmam, (2016) Textbook of Human Nutrition, 4th edition. Oxford and IBH Publishing Co. Pvt. Ltd.
2. Longvah, T., Ananthan, R., Bhaskarachary, K. and Venkaiah, K. (2017). Indian Food Composition Tables, Published by NIN
3. Raheena Begum, (2013). Textbook of Food, Nutrition and Dietetics, 3rd edition, Sterling Publishers Pvt. Ltd.
4. RavinderChada and PulkitMathur, (2015). Nutrition – A Life Cycle Approach, 1st edition, Orient Black Swan Private Limited
5. Shubhangini A. Joshi, (2002). Nutrition and Dietetics, 2nd edition, Tata McGraw-Hill Publishing Company Ltd.
6. Srilakshmi, B., (2018). Nutrition Science, 6th edition, New Age International Publishers.
7. Swaminadhan S, (2005). Advanced Text book on foods & nutrition, Vol. I&II (2nd revised and enlarged) Bappco.
8. VijayaKhader, (2000). Food, nutrition & health, Kalyani Publishers.

CO-CURRICULAR ACTIVITIES

1. Student seminars on different nutrients.
2. Preparation of posters, charts, flashcards etc. related to different nutrients – Functions, RDA dietary sources, nutrient content of foods and deficiency symptoms.
3. Collections of food samples rich in particular vitamins and minerals like calcium, iron etc.
4. Visit to food stores, vegetable and fruit markets to study locally available foods.
5. Study projects to collect the data from people. Eg. Foods avoided or given in specific conditions.
6. Celebration of Important Days (National and International)
    - World's Breast Feeding Week(August 1st - 7th)
    - Nutrition Week – September 1st - 7th
    - Nutrition Month – September month
    - World Food Day – October 16th

SEMESTER - I

HSC-102 – GENERAL PSYCHOLOGY

Theory: 4Hours/week
Practicals: 2 Hours /week

THEORY

UNIT I Introduction to Science of Behaviour

- Psychology as a Science of Behaviour: Definition, scope and Methods of Studying Human Behaviour – Observation method , Experimental Method, Case Study method , Survey Method , Cross sectional and Longitudinal Methods – Merits and Demerits.
- Branches of Psychology – Definition and basic concept of different branches- Developmental Psychology, Clinical, Counselling psychology, Abnormal, Educational, Industrial, Social and Sports Psychology.

UNIT II Basic Psychological Concepts

- Attention– Definition, Types -Voluntary and Involuntary; Determinants of attention.
- Perception – Definition, perceptual organization and perceptual Constancies and illusions.
- Memory – Definition, types and nature of memory. Methods of memorizing and factors influencing memory. Forgetting – types and causes. Ways of improving memory.
- Interests and Aptitude – Definition of the terms –factors affecting individual's interest and attitude; Assessment of interests and attitudes using inventories and scales.

UNIT III Personality

- Personality: Definition, Concept and types of personality – Normal and abnormal personalities, Factors affecting development of personality
  - Assessment of personality – Projective Tests - Definition CAT, TAT, Rorschach inkblot test.
- Major Psychological Approaches – Psycho-dynamic, Behavioural, Humanistic, Cognitive, Socio-cultural and Trait perspectives.
- Psycho-dynamic Perspective: Freud's Psycho-analytic theory – Understanding the structures of Id, ego and super ego and their interaction, Erickson's Theory – Eight stages of development.

UNIT IV Major Psychological Approaches - I

- Behavioural Perspective: Learning – Definition, Steps in learning process, Learning laws, Theories of learning-Classical Conditioning, Operant conditioning and Watson's Behaviourism.
- Humanistic Perspective: Motivation – Definition - Psychological basis – classification- Physiological, Psychological and social motives, unconscious, Abraham Maslow's theory of motivation.

UNIT V Major Psychological Approaches - II

- The Cognitive Perspective – Definition of terms - Cognition, Meta cognition, Intelligence, Intelligence Quotient (IQ) and Emotional Intelligence.

- Assessment of Intelligence – Verbal and nonverbal tests, classification of children based on intelligence, extremities of intelligence - sub normal and the gifted.

- Gardner's Multiple Intelligence theory.
- Trait Perspective – Type theory of Sheldon and Big Five Factor Theory.

PRACTICALS

1. Methods of studying child / Human Behaviour – Observation / Interview schedules
2. Assessment of Perception-Muller lyer illusion Experiment
3. Memory Recognition Test
4. Assessment of Interest - Thurston's Interest Schedule / Available tests
5. Assessment of Intelligence - Raven's progressive Matrices test/ Alexander pass-along test/ Available test
6. Assessment of personality - Projective tests / Personality Inventory/ Available tests

REFERENCES

1. Baron, R.A. (2001), Psychology (5th edition), Pearson Education Inc., New Delhi.
2. Feldman, R.S. (1997), Essentials of understanding psychology (3rd Edition) Mc Graw-Hill Companies. Inc. New York.
3. Mangal, S.K. (2019). General Psychology, revised edition, 2019, Sterling Publishers Pvt. Ltd.
4. Parameswaran, E.G. and Beena, C. (2002). Invitation to psychology, 1st edition, Neel Kamal Publications.
5. Sreevani, R. (2013). Psychology for Nurses, 2nd edition, 2013, Jaypee Brothers Medical Publishers (P) Ltd.

CO-CURRICULAR ACTIVITIES

1. Assessment of students IQ using verbal and non-verbal tests
2. Identifying children with extremes of intelligence in local schools
3. Giving small tests to check the students' memory, perception and Emotional intelligence
4. Assisting and guiding students to understand the concept of personality through lectures, small group seminars and workshops.
5. Observing different types of personalities based on type theory
6. Providing opportunity to interact with experts of different branches of Psychology like clinical psychologist, Counselling Psychology etc.,

SEMESTER - I

HSC-103–FUNDAMENTALS OF TEXTILES

Theory: 4 Hours/week
Practicals: 2Hours/week

THEORY

Unit-I Introduction to Textiles and Clothing

- Introduction to textiles and clothing - Importance of study of textiles.
- General properties of a Textile Fiber - Primary and Secondary.
- Classification of textile fibers – Natural and manmade; cellulose, protein, synthetic and mineral; staple and filament fibres

Unit-II Natural Fibers

- Cellulose fibres – Cotton and Linen - Production, properties, use and care
- Minor cellulose fibres
- Protein fibers – Silk and wool - Production, properties, use and care.

Unit-III Synthetic Fibers

- Nylon – Production, properties use and care
- Polyester – Production, properties use and care
- Acrylic fibres – Production, properties use and care

Unit – IV Mineral Fibers

- Mineral fibres – Fibre glass and Asbestos Production, properties and Uses
- Mixtures and Blends – Importance and advantages of Blending.
- Blends of Natural cellulose fibers, protein fibers and manmade fibers.

Unit – V Yarns

- Yarns – Types of Yarns - Staple and Filament
- Methods of spinning – Mechanical process
- Methods of spinning – Chemical process - Wet , Dry, Gel and Melt
- Classification of yarns – simple, novelty and textured yarns

PRACTICALS

1. Identification and collection of Textile Fibres
    - Plant Fibres – Cotton, Linen, Jute
    - Animal Fibres – Silk, Wool
    - Synthetic Fibres – Polyester, Nylon, Acrylic
2. Identification and collection of Yarns
    - Simple Yarns
    - Novelty Yarns
3. Tests to identify textile fibers
    - Texture
    - Microscopic examination and
    - Burning test.

REFERENCES

1. Deepali Rastogi and Sheetal Chopra (2017). Textile Science, 1st edition, Orient Black Swan Pvt. Ltd.

2. Kanwar Varinder Pal Singh. (2014). Introduction to Textiles, 1st edition, Kalyani Publishers.
3. Seema Sekhri. (2017). Text book of Fabric – Fundamentals to Finishing, 2nd edition, PHI Learning Pvt. Ltd.
4. Sushma Gupta, NeeruGarg, Renu Saini. (2018). Text book of clothing, textiles and laundry, 8th edition, Kalyani publishers.
5. Vastala, R. (2013) .Text book of Textiles and Clothing, 1st edition, Published by ICAR.

CO- CURRICULAR ACTIVITIES

1. Seminar/Assignment/Quiz/Group Discussion
2. Use of ICT in Class reports and Seminars.
3. Project Work
4. Construction of garments and their exhibition.
5. Visit to nearby weaving, dyeing units and printing Centres.

SEMESTER - II

HSC-201 – INTRODUCTION TO FOOD SCIENCE

Theory: 4Hours/week

Practicals: 2Hours/week

THEORY

Unit-I Introduction to Food Science

- Foods – Definition and objectives in the study of foods-functions of foods, group classification and relation to nutrition
- Cooking – Objectives of cooking, Preliminary preparations and methods of cooking – Advantages and disadvantages of each method.
- Effect of cooking on different nutrients.

Unit-II Plant Foods

- Cereals and Millets – Structure, Composition and nutritive value, processing, selection, storage and use in cookery
- Pulses and Legumes – Composition and nutritive value, processing, selection, storage and use in cookery
- Vegetables and Fruits – Classification, Selection, Nutritional aspects, Pigments, Enzymatic and non-enzymatic browning.
- Nuts and oil seeds – Nutritive value , use in cookery

Unit-III Animal Foods

- Milk and milk Products - nutritive value, use in cookery
- Egg - structure, nutritive value, methods to assess quality of eggs, changes during storage and use in cookery
- Meat, Poultry, Fish – Nutritive value, use in cookery
- Spices and condiments – Nutritive value, use in cookery

Unit-IV Food Processing

- Food Preservation – Methods, principles and their applications - high temperature, low temperature, removal of moisture, irradiation and preservatives
- Food additives – Types and their role in food processing
- Nutrient Enrichment – Germination, fermentation, fortification etc.
- Multipurpose foods, Convenience and Ready to eat foods –Advantages and disadvantages

Unit - V Food Microbiology

- Food Spoilage – Microorganisms causing spoilage – Factors responsible for spoilage and changes brought about in food by microorganisms
- Microorganisms that bring about useful changes in food.
- Microbiology of different foods – Contamination and spoilage of milk, egg, meat, fish, vegetables and fruits
- Food Sanitation and Hygiene – Safe food practices during preparation, storage and serving of food.

PRACTICALS

1. Standardization of weights and measures of various food items.

2. Cereals, pulse and vegetable preparations and calculation of nutritive values of recipe .
3. Milk, meat, egg preparations and calculation of nutritive values of recipes.
4. Demonstration of Drying, Fermentation and germination processing techniques.

REFERENCES

1. Bamji MS, Krishnaswamy K, Brahmam GNV. (2016). Textbook of Human Nutrition, 4th edition, Oxford and IBH Publishing Co. Pvt. Ltd.
2. Manay N. Shakuntala & Shadakshara Swamy.(2008). Foods, Facts and Principles, 3rd edition, New Age International Publishers. .
3. Reddy,S.M.(2015). Basic Food Science & Technology, 1st edition, New Age InternationalPublishers.
4. Raina U, Kashyap S, Narula V, Thomas S, Suvira, Vir S, Chopra, S. (2010). Basic Food Preparation: A Complete Manual, Fourth Edition, Orient Black Swan Ltd.
5. Sumati R. Mudambi, M.V. Rajagopal. (2006). Food Science, 2nd edition, New AgeInternational Publishers.
6. Srilakshmi, B.(2018). Food Science, 7th edition, New Age International Publishers.
7. Wardlaw MG, Insel PM. (2004). Perspectives in Nutrition, Sixth Edition, Mosby Publishers.

CO- CURRICULAR ACTIVITIES

1. Student Seminars on different food groups
2. Collection of samples of different food products available in the market and study their nutrient composition and use in cookery.
3. Field visits – Visit to food processing units.
4. Field study – Survey on Food Additives used in various food products/ processed foods.
5. Collection of different ready to eat foods and processed foods.
6. Celebration of Important Days (National and International)
    - World Nutrition day-May 28th
    - Nutrition week (Sep 1st 7th)
    - World food day - October16th

SEMESTER - II

HSC – 202 - HOUSING FOR BETTER LIVING

Theory: 4 Hours/Week
Practicals: 2 Hours/Week

THEORY

Unit I: Housing

- Importance and functions of a house; Factors influencing the choice of house.
- Requirements for purchasing land for building a house - Selection of site, soil condition, locality, orientation, sanitary facilities, good neighbour-hood, legal characteristics etc.
- Principles of planning a house – aspect, prospect, privacy, flexibility, roominess, grouping, circulation, sanitation, practical considerations etc

Unit II: House Plans

- Planning of different rooms in the house – Veranda, living room, bed room, kitchen etc.
- Kitchen plans – Planning of efficient work centres (L shape, U shape, single walled, peninsular shaped kitchens) and storage facilities in kitchen and other rooms.
- House plans for different income groups – High income, Middle income and Low income.
- Advantages and disadvantages of owning and renting a house.

Unit III: Building Materials and Flooring Materials

- Types and properties of Building Materials – Stone; Clay products; Cement; Mortar; Concrete; Timber; Plywood & related products; Plastics & related products; Paints & related products; Ferrous & nonferrous metals; Gypsum & related products.
- Flooring – Factors in selection of flooring material and Types of flooring

Unit IV: Building Protection

- Dampness Protection – Reasons, Preventive and curative methods of dampness
- Termite Protection – Sources, preventive and curative methods of termite attack
- Fire Protection – Causes of fire, preventive measures and fire resisting construction
- Household cleaning and care – General principles to be followed for cleaning rooms and floors; Equipment and reagents for cleaning rooms and floors.

Unit V: Household Equipment

- Factors to be considered for the selection and purchase of household equipment.
- Construction principles and care of the following equipment
  - Small electrical appliances – mixers, toasters, beaters, iron etc.
  - Large electrical appliances – Refrigerator, washing machine, vacuum cleaner, dish washer, electric range etc.
  - Low cost non-electrical appliances for rural areas – hay box, low cost refrigerator, solar cooker etc.
- Points to be considered while operating electrical appliances and safety measures to avoid accidents

PRACTICALS

1. House plan - symbols, site plan, floor plan, elevation, landscape
2. House plans for different income levels - low income, middle income and high income.
3. Kitchen plans- L shape, U shape, broken L, U Shape, peninsular, one walled.
4. Market study on building materials & identification of – floor finishes, wall finishes and ceiling finishes.

5. Care and cleaning of metals and Non-metal items.
6. Care and cleaning of different types of floors and walls using suitable cleaning equipment and cleaning agents

REFERENCES

1. Premlata Mullick, (2016). Textbook of Home Science, 4th edition,, Kalyani Publishers
2. Varghese & Oagle (2005) Home Management, New Age International Publishers.
3. Subasini Mohapatra (2010).Home Management and Household Economics, Kalyani Publishers.
4. Premavathy Seetharaman, Parveen Pannu (2005), Interior Design and Decoration, 1st edition, CBS Publishers.
5. Sushma Gupta, Neeru Garg &Renu Saini (2018), Text book of Family Resource Management, Hygiene and Physiology, 11th edition, Kalyani Publishers.
6. Pratap Rao, M. (2012), Interior Design – Principles & Practice, 4th edition, Standard Publishers & Distributors.
7. Prof. Veena Gandotra, Dr. Sarjoo Patel (2006), Housing for Family Living, 1st edition, Dominant Publishers & Distributors

CO-CURRICULAR ACTIVITIES

1. Study of building materials and equipment which are not included in the syllabus
2. Visiting Places- Building sites/ Construction
3. Drawing layouts
4. Model making- clay, cardboard etc
5. Debates/Seminar/Group discussions/Quiz
6. Charts & Poster Presentations
8. Organizing exhibitions
9. Album making of Layouts, finishes. Household Equipment etc

SEMESTER II

HSC- 203 –FUNDAMENTALS OF HOME SCIENCE EXTENSION

Theory: 4 Hours/week
Practicals: 2 Hours/week

THEORY

Unit-I Extension Education

- Meaning, Concept, Scope and objectives
- Formal and Non formal Education
- Philosophy and principles of Extension Education
- Role and Qualities of an Extension worker

Unit-II Teaching and Learning Process

- Teaching – Meaning, definition, steps in Teaching
- Learning – Meaning, definition, Elements of Learning
- Learning Situation – Definition, Elements of Learning Situation
- Principles of learning and their Implications for Teaching
- Motivation – Principles of Motivation in Extension
- Classification of motives

Unit-III Teaching Methods/Techniques

- Extension Teaching methods – Definition , Functions and Classification of Teaching methods – According to use and form
- Individual methods – Farm and home visits, Telephone calls, Personal letter, Result demonstrations.
- Group methods – Method demonstration, Group meetings/Discussions, Conferences, Field trips etc.
- Mass Methods – Print and electronic media , Internet and Exhibitions
- Factors to be considered in selection and combination of teaching methods

Unit-IV Audio - Visual Aids:

- Audio Visual Aids – Meaning and Classification
- Factors Influencing selection of Audio-Visual Aids
- Principles of Preparing in Planning, Presentation and evaluating in Audio-Visual Aids
- The cone of Experience

Unit-V Communication

- Communication – Meaning, Definition and scope of Communication
- Key Elements in the process of Communication – 1. Communicator 2. Messages, 3.Channel 4. Treatment of Messages 5. Audience 6. Audience Response.
- Types of Communication – Verbal, Non Verbal, Small group and Mass Communication.
- Barriers to communication.

PRACTICALS

1. Visit to a community/ village to find out the socio economic needs of the people
2. Preparation of Survey Schedule
3. Preparation and display of teaching aids – Posters, charts, flash cards etc.

4. Display of bulletin board

REFERENCES

1. Adivi Reddy (1985). Extension Education, Sreelakshmi press, Baptla,
2. Dahama.O.P .(1981). Extension and Rural welfare, Ram Prasad and Sons Agra Bhopal.
3. Doshi, S.L. (2007). Rural Sociology. Delhi Rawat Publishers.
4. Dubey,V.K.. (2009). Extension Education & Communication, 1st edition New Age International Ltd
5. Indhubala (1980), Gruhavignasastravistarana , Telugu academy text book publications
6. Sanths Govind, G. Tamliselvi And J. Meenainbigai .(2011). Extension Education and Rural Development .Agroblos (India) Chopasani Road Jodhpur- 342002 (Raj.)
7. Shekar Serene & Santosh Ahlawat . (2013).Text book of Home Science Extension Education, 1st edition, Daya Publishing house.
8. Supe, S.V.(1983). An Introduction to Extension Education. Oxford& IBH publishing Co, New Delhi.

CO- CURRICULAR ACTIVITIES

1. Adoption of a village based on the socio-economic background.
2. Visit to an adopted village and conduct
   - Baseline survey regarding demographic, population, Educational and felt needs of the villagers.
   - Collection of data.
   - Pooling and Analyzing the data.
3. Preparation, use and evaluation of visual aids viz.,
   - Poster
   - Different types of charts.
   - Flash cards
   - Display of Bulletin Board.
4. Presentation of seminars in the class rooms.
5. Blackboard teaching for 15 minutes in the class room.
6. Promoting effective verbal and non- verbal communications among students.